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Model #: SU20KRT

SmartOnline 20kVA On-Line Double-Conversion UPS, N+1, 12U Rack/Tower, 200-240V NEMA & C19 outlets

Highlights

- 20kVA / 20,000VA / 18,000W on-line double-conversion UPS; 0.9 power factor
- 200/208/220/230/240V 50/60Hz output; Economy mode option
- Hot-swap power and battery modules, N+1 fault tolerance at loads up to 10kVA
- USB, RS232 & EPO ports; support for SNMP/WEB and contact-closure card options
- Front panel LEDs with detailed LCD monitoring and control screen
- Expandable runtime with optional external battery packs
- Hardwire input (3 wire); L6-30R & C19 outlets

Description

Tripp Lite SU20KRT 20,000VA / 20kVA / 18,000 watt online, double-conversion UPS system offers complete power protection for critical server, network and telecommunications equipment in a 12U rack/tower configuration. This system delivers complete N+1 redundancy when used at loads up to 10kVA, and non-redundant operation at loads between 10 and 20kVA. Fault-tolerant auto-bypass prevents unexpected service interruptions during UPS overload or internal fault conditions. Included parallel PDU with manual bypass switching enables hot-swappable replacement of all major UPS system components in both N+1 and combined operating modes. Enhanced availability, fault tolerance and simple hot-swap replacement options make this UPS ideal for advanced networking applications in data centers, computer rooms, network closets and rugged industrial locations.

Package Includes

- Two SU10000RT3UPM UPS power modules
- Two BP240V10RT3U battery packs
- L6-30R / C19 parallel PDU with Bypass switch
- 4-post rackmount installation rails
- PowerAlert software and cabling

Features

- Tripp Lite SU20KRT 20kVA, 20,000VA / 18,000 watt on-line, double-conversion UPS system in 12U total rack/tower configuration
- Offers enhanced fault-tolerance and reliability with N+1 configuration support and hot-swappable whole UPS replacement options
- Unique configuration ties input, output and data connections of two standard 10kVA UPS systems via detachable parallel PDU to offer 20kVA non-redundant operation and automatic N+1 redundancy at load levels of 10kVA and lower
- Included Parallel PDU with manual bypass switching enables hot-swappable replacement of either 10kVA power module at any supported load level, with no interruption to connected equipment
- Hardwire input; 2 L6-30R and 8 C19 outlets
- Fault tolerant electronic bypass maintains utility output during a variety of UPS fault conditions
- Full-time active power conditioning provides clean, continuous dual-conversion AC output free of voltage fluctuations, power interruptions and line noise
- Double-conversion operation converts raw input from AC to DC, then resynthesizes output power back to perfect sine wave AC with enhanced protection from harmonic distortion, fast electrical impulses and other hard-to-solve power problems not addressed by other UPS types
- Maintains full-time sine wave output within 2% of selectable 200/208/220/230/240V nominal during brownouts as low 100V and

overvoltages as high as 300V
- Supports 50/60Hz operation for worldwide frequency compatibility
- Expandable runtime is supported with optional BP240V10RT3U; BP240V557C-1PH; BP240V787C-1PH; BP240V1037C-1PH; BP240V1407C-1PH external battery packs
- Highly efficient operation in optional economy mode significantly reduces BTU heat output and operating energy costs
- Battery independent restart ensures automatic UPS power-up without user interaction after lengthy power outages, even when batteries are expired and require replacement
- Rack / tower configuration installs in 12 total rack spaces (12U) with a maximum installed depth of only 32.5 in. / 82.6 cm
- PowerAlert monitoring software offers detailed site power and UPS updates with support for safe auto-shutdown of connected systems as UPS batteries become depleted
- Includes Free PowerAlert monitoring software packages; PowerAlert LOCAL for desktops and small business networks, PowerAlert NSA (Network Shutdown Agent) for larger networks and PowerAlert NMS (Network Management System) for monitoring up to 250 SNMP-enabled UPS, PDU and other networking devices
- Supports detailed monitoring of equipment load levels, self-test data and utility power conditions via built-in RS-232 and USB interfaces
- HID-compliant USB interface enables integration with built-in power management and auto shutdown features of Windows and Mac OS X
- Optional SNMPWEBCARD offers communications and control via secure remote web and network interfaces
- Optional RELAYIOCARD supports six configurable hard contact closure outputs for custom event notification
- Optional RELAYIOMINI interface module offers three configurable hard contact closure outputs for custom event notification (requires removal of USB interface module)
- Supports Emergency Power Off (EPO) via built-in interface
- Included rail kit supports 12U 19 inch rackmount installation in 4 post racks
- Optional 2POSTRMKITHD supports installation in 2 post 19 inch racks (4 required for SU20KRT)
- Optional 2-9USTAND supports upright tower placement (2 required for SU20KRT)
- Front panel LEDs and LCD readout with scroll controls and password option supports visual monitoring of all major UPS functions and advanced UPS settings for charge level, nominal voltage selection, frequency conversion and other operational parameters
- LED / LCD display panel rotates for viewing in rackmount or tower configurations
- Network-grade AC surge and noise suppression
- Industrial mode option (factory preset) enables supports high current startup loads by momentarily switching to bypass mode in response to short duration overload conditions
- Frequency conversion mode enables conversion of 60Hz to 50Hz or 50Hz to 60Hz (no de-rating)
- External battery packs are field replaceable and hot swappable
- 2 year warranty and $250,000 connected equipment insurance; extended warranty and service contracts available

Specifications

OUTPUT	
Output Volt Amp Capacity (VA)	20000
Output kVA capacity (kVA)	20
Output Watt Capacity (watts)	18000
Output kW capacity	18
Output power factor	0.9
Output Capacity Details	Supports up to 105% load continuously in double conversion mode, 106 to 125% for 1 minute, 126% to 150% for 30 seconds; Loads over 150% trigger immediate bypass mode operation to support loads directly from mains power; Double conversion mode is automatically restored as load levels are reduced to 95% or less
Nominal Output Voltage(s) Supported	200V; 208V; 220V; 230V; 240V
Nominal Voltage details	Voltage selection via front panel LCD interface
Frequency compatibility	50/60 Hz (auto-selectable)

Frequency compatibility details	Output frequency matches input nominal on startup; Frequency conversion mode enables conversion of 60Hz to 50Hz or 50Hz to 60Hz (no de-rating)
Output voltage regulation (line mode)	+/- 2%
Output voltage regulation (Economy line mode)	+/- 10%
Output voltage regulation (Battery mode)	+/- 2%
Built-in UPS output receptacles	2 L6-30R outlet(s); 8 C19 outlet(s)
Output circuit breaker	Two built-in 30A breakers protect one L6-30R outlet each; Eight built-in 20A breakers protect one C19 outlet each
Output AC waveform (AC mode)	Sine wave
Output AC waveform (battery mode)	Pure Sine wave
INPUT	
Rated input current (at maximum load)	112.2A (200V), 108A (208V), 102A (220V), 97.6A (230V), 93.6A (240V)
Nominal Input Voltage(s) Supported	200V AC; 208V AC; 220V AC; 230V AC; 240V AC
UPS input connection type	Hardwire
UPS input connection description	3 wire single phase input (L1, L2, G)
Recommended Electrical Service	120A
BATTERY	
Full load runtime (minutes)	4.3 minutes (18,000 watts)
Half load runtime (minutes)	12.5 minutes (9000 watts)
Expandable battery runtime	Runtime is expandable with external battery packs
External battery pack compatibility	BP240V10RT3U; BP240V557C-1PH; BP240V787C-1PH; BP240V1037C-1PH; BP240V1407C-1PH
Expandable runtime description	For best results, add external batteries in multiples of two so that both included 10kVA power modules have an equal number and type of connected battery packs
DC system voltage (VDC)	240
Battery recharge rate (included batteries)	Less than 8 hours from 10% to 90%
Battery replacement description	Hot-swappable, user replaceable external battery packs
VOLTAGE REGULATION	

Voltage regulation description	2% output voltage regulation in standard online, double-conversion mode
Overvoltage correction	Corrects overvoltages up to 300V
Undervoltage correction	Corrects undervoltages as low as 100V
LEDS ALARMS & SWITCHES	
LED Indicators	6 LEDs indicate line power, online mode, economy/bypass mode, on-battery, charger and AC output status; LCD screen offers additional information and control options
Front panel LCD display	Selectable LCD display with scroll and selection buttons enables UPS control and detailed monitoring options; LED/LCD panel rotates for viewing in rack/tower formats; LCD Display supports ENGLISH, FRENCH, GERMAN, ITALIAN, SPANISH and PORTUGUESE (see manual)
Alarms	Unique audible alarms for all major UPS, environmental and power conditions (see manual)
Alarm cancel operation	Alarm cancel switch
Switches	2 Switches control off/on power status and alarm-cancel/self-test operation; 2 additional switches support set and execute scrolling LCD functions; bundled PDU includes bypass switch to enable hot-swap UPS power module replacement
SURGE / NOISE SUPPRESSION	
UPS AC suppression response time	Instantaneous
EMI / RFI AC noise suppression	Yes
PHYSICAL	
Included mounting accessory description	4 sets of adjustable 4 post rack rails included
Installation form factors supported with optional accessories	2 post rackmount (2POSTRMKITHD); Tower (2-9USTAND)
Optional mounting accessory notes	Qty 4 2POSTRMKITHD required; Qty 2 2-9USTAND required
Primary form factor	Rackmount
UPS / Power Module dimensions in primary form factor (height x width x depth / inches)	5.14 x 17.5 x 25.82
UPS / Power Module dimensions in primary form factor (height x width x depth / cm)	13.1 x 44.5 x 65.6
Installed whole system maximum rack depth (inches)	32.5
Installed whole system maximum rack depth (cm)	82.6

Installed whole system total rack space height (rack spaces)	12U
Secondary form factor	Tower
UPS / Power Module weight (lbs)	44.1
UPS / Power Module weight (kg)	20
UPS dimensions details	Includes 2 SU10000RT3UPM UPS/Power modules and 2 BP240V10RT3U Battery packs; Listed weights and dimensions for UPS/Power module and Included battery pack each refer to a single unit
Included battery pack dimensions (height x width x depth / inches)	5.25 x 17.5 x 25
Included battery pack dimensions (height x width x depth / cm)	13.3 x 44.5 x 63.5
Included battery pack weight (lbs)	158.7
Included battery pack weight (kg)	72
UPS Shipping dimensions (height x width x depth / inches)	36 x 40.25 x 51
UPS Shipping dimensions (height x width x depth / cm)	91.4 x 102.2 x 129.5
Shipping weight (lbs)	600
Shipping weight (kg)	272.4
UPS housing material	Steel
Cooling method	Fans
ENVIRONMENTAL	
Operating Temperature Range	+32 to +104 degrees Fahrenheit / 0 to +40 degrees Celsius
Storage Temperature Range	+5 to +122 degrees Fahrenheit / -15 to +50 degrees Celsius
Relative Humidity	0 to 95%, non-condensing
AC mode BTU / hr. (full load)	6830
AC economy mode BTU / hr. (full load)	2550
AC economy mode efficiency rating (100% load)	96%

Operating Elevation (ft)	0-3000m (0 to 10,000 ft.)
Audible Noise	60 dBA at front side 1 meter
COMMUNICATIONS	
Communications interface	USB (HID enabled); DB9 Serial; EPO (emergency power off); Slot for SNMP/Web interface
Network monitoring port description	Additional contact closure support with optional RELAYIOCARD and RELAYIOMINI interface cards. RELAYIOMINI installation requires removal of panel containing USB ports
PowerAlert software	Included
Communications cable	USB, DB9 serial and EPO cables included
WatchDog compatibility	Supports Watchdog application, OS and hard-reboot restart options for remote applications
LINE / BATTERY TRANSFER	
Transfer time	No transfer time (0 ms.) in online, double-conversion mode
Transfer time (economy mode)	8 milliseconds typical power failure response in optional economy mode
Low voltage transfer to battery power (setpoint)	100V
High voltage transfer to battery power (setpoint)	300V
SPECIAL FEATURES	
Cold Start (startup in battery mode during a power failure)	Cold-start operation supported
Economy mode operation	Optional economy mode enables high efficiency bypass operation with a maximum output voltage variation of +/-10%. Double conversion mode is automatically restored as mains voltage varies beyond +/-10% with less than 1 millisecond transfer time between modes
High availability UPS features	Automatic inverter bypass; Manual bypass switch; Detachable hot-swap PDU; Hot swappable UPS power module; Hot swappable batteries
Green & high efficiency features	High efficiency economy mode operation; Support for daily startup and shutoff; Schedulable daily hours of economy mode operation
CERTIFICATIONS	
UPS Certifications	Tested to UL1778 (USA); Tested to CSA (Canada); Meets FCC Part 15 Category A (EMI); ROHS (Restriction of Hazardous Substances)
UPS Certification details	IEC 61000-4-5 1995 B Surge Immunity
WARRANTY	
Product Warranty Period (U.S., Canada & Puerto Rico)	2-year limited warranty
Connected Equipment Insurance (U.S., Canada & Puerto Rico)	$250,000 Ultimate Lifetime Insurance

Related Items

Optional Products

Product Type	Related Model	Description	Qty.
Extended Warranties	WEXT3-SU16-20K	3-Year Warranty (1-Year Extension) - For SU16K through SU20K Single-Phase UPS Models	1
Extended Warranties	WEXT5-SU16-20K	5-Year Warranty (3-Year Extension) - For SU16K through SU20K Single-Phase UPS Models	1
External Battery Frames	BP240V10RT3U	External Battery Pack and Cable. 3U, Expandable, Black 3-Point Connector	1
External Battery Packs	BP240V1037C-1PH	External battery pack for use with select Tripp Lite UPS Systems	1
External Battery Packs	BP240V1407C-1PH	External battery pack for use with select Tripp Lite UPS Systems	1
External Battery Packs	BP240V557C-1PH	External battery pack for use with select Tripp Lite UPS Systems	1
External Battery Packs	BP240V787C-1PH	External battery pack for use with select Tripp Lite UPS Systems	1
Power Cables	P032-007	7-ft. 12AWG Heavy Duty Power cord (IEC-320- C13 to IEC-320-C20	1
Power Cables	P036-002	2-ft. 12AWG Heavy Duty Power cord (IEC-320-C19 to IEC-320-C20)	1
Power Cables	P036-006	6-ft. 12AWG Heavy Duty Power cord (IEC-320-C19 to IEC-320-C20)	1
Power Cables	P041-001-2	1-ft. 10AWG Heavy Duty Power Splitter Cable (NEMA L6-30P to 2x NEMA L6-30R)	1
Power Distribution	PDUMNV20HV	Monitored PDU / Power Distribution Unit supports real-time remote monitoring of load level, voltage and frequency with options for remote environmental and security monitoring	1
Power Distribution	PDUMNV30HV	Monitored PDU / Power Distribution Unit supports real-time remote monitoring of load level, voltage and frequency with options for remote environmental and security monitoring	1
Power Distribution	PDUMV20HV	Metered 0U Vertical Rack PDU - Metered Power Distribution Unit for Network Applications	1
Power Distribution	PDUMV20HVNET	Switched, Metered PDU with Remote Monitoring - 0U Vertical Rackmount Power Distribution Unit for Networks with Individually Switchable Outlets, Current Metering, Remote Monitoring and Control	1
Power Distribution	PDUMV30HV	Metered 0U Vertical Rack PDU - Metered Power Distribution Unit for Network Applications	1
Power Distribution	PDUMV30HVNET	Switched, Metered PDU with Remote Monitoring - 0U Vertical Rackmount Power Distribution Unit for Networks with Individually Switchable Outlets, Current Metering, Remote Monitoring and Control	1
Power Distribution	PDUV30HV	Basic 0U Vertical Rack PDU - Power Distribution Unit for Network Applications	1
Rackmount/Wallmount Kits	2POSTRMKITHD	Enables 2-Post Rackmount Installation of 3U and Larger UPS, Transformer and Battery Pack Components	1
SNMP Accessories	SNMPWEBCARD	For remote monitoring and control via SNMP, Web, or Telnet.	1
Tower Stands	2-9USTAND	Enables Tower Placement of Rackmount UPS Systems	1
UPS Accessories	MODBUSCARD	For remote monitoring and control via MODBUS protocol	1
UPS Accessories	RELAYIOCARD	Programmable Relay I/O Card	1
UPS Accessories	RELAYIOMINI	3 Relay I/O Mini-module	1

More information, including related products, owner's manuals, and additional technical specifications, can be found online at www.tripplite.com/en/products/model.cfm?txtModelID=4736.

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